

REMARKS

Claims 1-7 are currently pending in this application, as amended. By the present amendment, claims 1-7 have been amended and claim 8 has been canceled. Applicant respectfully submits that no new matter has been introduced into the application by these amendments.

CLAIM OBJECTIONS

In the Action, claims 2-7 were objected to due to a minor informality with respect to the first word of each of claims 2-7 being the word "a". This has been amended as noted to "the" and accordingly withdrawal of the objection to claims 2-7 is respectfully requested.

Claim 8 was also objected to as being an improper dependent claim. In response, claim 8 has been canceled.

CLAIM REJECTIONS – 35 U.S.C. §102

Claims 1-4 and 6-8 were rejected under 35 U.S.C. §102(b) as anticipated by U.S. 6,276,907 to Cooper et al. Applicant respectfully traverses this rejection.

Claim 1 is directed to a reciprocating piston machine having at least one working membrane or at least one auxiliary membrane made from an elastomeric material and having an oscillating drive which engages the membrane only in a central area. A deformable membrane area is provided between the central area of the membrane and a circumferential edge area which is clamped in the reciprocating piston machine and which deforms during the oscillating pumping movement. A different geometrical configuration of the working membrane or the auxiliary membrane between mounting points provided in the central area and at the circumferential edge area is developed by two merging curves, which define a shape of the membrane.

In contrast, Cooper et al. is directed to a diaphragm pump in which the diaphragm is driven by a drive fluid located in a second chamber behind the membrane such that a material located in the first chamber can be pumped by the diaphragm. This arrangement allows the drive fluid to be distributed across the diaphragm by a plurality of openings (324) as shown in Figures 10 and 11, so that the fluid is evenly distributed under the diaphragm and forces it to flex upwardly to allow pumping of the material within the first chamber. This arrangement does not provide an oscillating drive which engages the membrane only in a central area as required in claim 1. In view of the differences in the drive of Cooper et al. being via a uniform pressurizing fluid acting on the underside of the membrane in the second pressure chamber, it is unclear whether any specific hinged annular zone would be created rather than the entire flexible region (304) being displaced generally uniformly upwardly via the pressurized fluid. Accordingly, this reference also fails to provide two merging curves which form a single annular flex area developed by two merging curves which define the shape of the membrane in this area.

In view of these differences, it is clear that Cooper et al. cannot anticipate claim 1. As claims 2-4, 6 and 7, depend directly or indirectly from claim 1, these claims should also be patentable over Cooper et al.

Claims 1-8 were also rejected under 35 U.S.C. §102(b) as anticipated by U.S. 5,863,184 to Juterbock et al. Applicant respectfully traverses this rejection.

Juterbock et al. is similarly directed to a diaphragm pump having a first chamber located on one side of the diaphragm for pumping a fluid and a second chamber located on the other side of the diaphragm which is alternately pressurized with a drive fluid which is separated from the pump chamber by the diaphragm. See column 1, lines 50-52. As with Cooper et al., this results in the underside of the membrane being generally uniformly pressurized. Thus Juterbock et al. lacks the oscillating drive engaged in the membrane only in a central area. Additionally, there is no suggestion that a differential geometrical configuration is caused by the drive of the

working membrane or the auxiliary membrane between mounting points provided in the central area that and at the circumferential edge area is developed by two merging curves, which define a shape of the membrane. Accordingly, withdrawal of the Section 102(b) of claims 1-8 in view of Juterbock et al. is respectfully requested.

CONCLUSION

If the Examiner believes that any additional minor formal matters need to be addressed in order to place the present application in condition for allowance, the Examiner is invited to contact the undersigned by telephone at the Examiner's convenience.

In view of the foregoing amendments and remarks, applicant respectfully submits that the present application, including claims 1-7, is in condition for allowance, and a Notice to that effect is respectfully requested.

Respectfully submitted,

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